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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,473	09/29/2003	Yoshimasa Yagishita	107337-00053	7967

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ARENT FOX KINTNER PLOTKIN & KAHN
1050 CONNECTICUT AVENUE, N.W.
SUITE 400
WASHINGTON, DC 20036

EXAMINER	
PHAM, LY D	

ART UNIT	PAPER NUMBER
2818	

DATE MAILED: 04/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/671,473	YAGISHITA ET AL.
	Examiner	Art Unit
	Ly D Pham	2818

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 September 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *4-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *4-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. 09/988,614.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *0903*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's Pre-Amendment filed September 29, 2003 has been entered. Claims 1 – 3 have been canceled. Claims 4 – 10 are presented for the examination.

Specification

2. In the specification, page 5, line 26, "recorders" is believed to be a typo. If so, correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 4, 5, 7, and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Haraguchi (US Pat 6,178,127 B1).

Regarding **claim 4**, Haraguchi discloses a semiconductor memory device with a plurality of subblocks each including a drive circuit and a memory array (col. 2, lines 29 – 41, "... row decoder provided commonly to memory sub-blocks ..."), the device comprising:

a defective line information store circuit for storing information showing defective lines in a plurality of subblocks according to subblocks (col. 2, lines 7 – 15); and

a redundant circuit for substituting other lines including a redundant line for a defective line in each of the plurality of subblocks on the basis of information stored in the defective line information store circuit (fig. 10, redundant column decoders 933a/933b, col. 2, lines 16 – 24).

Regarding **claim 5**, Haraguchi also teaches the semiconductor memory device according to claim 4, wherein each memory block BK1 includes memory sub-blocks 910a and 910b (col. 2, lines 29 – 33), each memory blocks includes one redundant column and each is provided with replacement column address program circuits RAP1 – RAPn (col. 2, lines 7 – 15). Therefore, each replacement column address program circuit RAP is shared among the memory sub-blocks, and providing independent defective column repair from other memory blocks (col. 2, lines 16 – 24).

Regarding **claim 7**, Haraguchi also teaches the semiconductor memory memory device according to claim 5, wherein each of the plurality of subblocks is divided into a plurality of sections, wherein the redundant circuit performs a redundant process in each of the plurality of sections (fig. 1 shows a plurality of memory blocks, corresponding to the claimed sub-blocks, each with a plurality of sub-block of figs. 16 and 17B, corresponding to the claimed sections, each has a redundant process, RIP1 – RIPN for the sub-blocks/sections).

Regarding **claim 9**, Haraguchi also teaches the semiconductor memory device according to claim 4, further comprising:

an address input circuit for receiving an address signal input (fig. 1, address buffers 2, 3, 4);

a drive circuit for driving the plurality of subblock in compliance with the address signal (fig. 1, block selector 1);

a signal line for connecting the address input circuit and the drive circuit (fig. 1, signal lines with arrow heads showing signal directions);

a supply circuit for supplying information stored in the defective line information store circuit to the redundant circuit via the signal line (fig. 2, defective information from RAP circuit is supplied to redundant column signal lines via multiplexer--supply circuit).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 6, 8, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haraguchi.

Regarding **claims 6, 8, and 10**, although Haraguchi did not clearly show the semiconducor memory device according to respective claims 5, 4, and 9, featuring specific locations of parts, however, Haraguchi has demonstrated circuit design with arrangement/locating for allowing efficient use of redundant column for reduced circuit area without increasing chip size(abstract). Therefore, it is considered obvious to one of ordinary skill in the art, at the time the invention was made, to arrive at a design arrangement of parts, which how are claimed are only in particular, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse,* 86 USPQ 70.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

8. When responding to the office action, Applicant(s) are advised to provide the examiner with the page and line numbers in the application and/or references cited to assist the examiner to locate the appropriate paragraphs.

9. A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) day from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned (see MPEP 710.02(b)).

10. Any inquiry concerning this communication on earlier communications from the examiner should be directed to Ly Pham, whose telephone number is **571-272-1793**. The examiner can normally be reached on Monday – Friday from 8:30am to 5:00pm, alternate Friday off. The examiner's supervisor, David Nelms, can be reached at **571-272-1787**. The fax number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Ly Pham

April 5, 2004

David Nelms
Supervisory Patent Examiner
Technology Center 2800